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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.   | CONFIRMATION NO. |
|-----------------|-------------|----------------------|-----------------------|------------------|
| 09/688,332      | 10/10/2000  | Barbara J. Burns     | KCX-339(155459/15476) | 1223             |

7590 04/01/2002  
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EXAMINER

CHIN, PETER

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

1731

DATE MAILED: 04/01/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application N .

09/688,332

Applicant(s)

BURNS ET AL.

Examiner

Peter Chin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-36, 40 and 41 is/are rejected.
- 7) ☐ Claim(s) 37, 38 and 42 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_                      6) ☐ Other:

### DETAILED ACTION

1. The present application contains a duplicate set of claims 8-18 appearing on pages 38 and 39. Page 42 ends with claim 40, following page 43 begins with apparently unnumbered incomplete claim followed by claims numbered 54 and 55, both of which depend from claim 53 that is not present. The total number of originally filed claims is 42 and the claims 54 and 55 have been renumbered according as claims 41 and 42 respectively.
2. Claims 41 and 42 are objected to for being dependent from a non-existing claim.
3. Claims 1-17 rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Smith et al (6,319,361).

Smith et al discloses a tissue paper and paper towel products containing cellulose that have been oxidized to contain free aldehyde groups. The aldehyde groups react with hydroxy groups of water soluble polymers such as starches, guar gum, polyacrylamides and polyvinyl alcohol (column 7) to obtain high initial wet strength. Hardwood disclosed in the first full paragraph of column 4 and in the examples, which also show mixtures of hardwood and softwood pulp. Multilayer products are disclosed in column 10.

The claimed invention is in the form of a product by process claims. In this regard it is noted that irrespective of the method by which the aldehyde groups are introduced into the cellulose or wood pulp fiber, the final product is a paper containing cellulose fiber having free aldehyde groups and binder. Thus, Smith et al anticipates or obviously shows the claimed invention.

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4. Claims 18-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al (6,319,361) in view of Phan et al (5,405,501).

Phan et al shows that it is conventional practice in multiplayer tissue paper to have the outer layer contain hardwood pulp and binder, which balances strength, lint resistance and softness. Thus, it would have been obvious to employ the aldehyde modified hardwood pulp and binder of Smith et al in the arrangement taught by Phan et al.

5. Claims 1-17 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Lazorisak et al (5,620,565).

Lazorisak et al relates to making tissue paper and paper towels. A high coarseness wood pulp fiber is treated with an enzyme and surfactant. Oil is added to the pulp to obtain enhanced softness and flexibility to the fiber. One commercially available enzyme used, *Pulpzyme HA*, has endo-glucanase activity; other commercially available cellulase with carboxymethyl cellulose activity are disclosed, see columns 9 and 10. Hardwood pulp and mixture of hardwood and softwood pulp are disclosed in columns 12 and 13. Lazorisak et al is silent as to the formation of aldehyde groups. Strengthening agents are disclosed in the examples. Since the same type of enzymes are used and in combination with surfactants, aldehyde groups are inherently formed during enzymatic treatment. Thus Lazorisak et al anticipates or obviously show the claimed paper product.

6. Claims 18-37,40,41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lazorisak et al (5,620,565) in view of Phan et al (5,405,501).

Phan et al shows that it is conventional practice to prepare multilayer tissue paper wherein hardwood pulp, softening and strengthening agents are located in the outer layer to achieve the requisite softness and strength. Separate pulp slurries are prepared. It would have been obvious to prepare separate slurries of hardwood fibers and softwood fibers in the manner claimed in order to prepare a conventional multiplayer tissue paper as shown by Phan et al.

7. Claims 37 and 38 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Pere et al (6,099,688 and 5,865,949) shows treating wood pulp, including hardwood pulp with a cellobiohydrolase to improve strength and flexibility of the fiber.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Chin whose telephone number is (703) 308-2046. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on (703) 308-3837. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7718 for regular communications and (703) 305-3599 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.

A handwritten signature in black ink, appearing to read 'Peter Chin', with a stylized, flowing script.

Peter Chin  
Primary Examiner  
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